ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
Generic Copy

20-Aug-2008

SUBJECT: ON Semiconductor Final Product/Process Change Notification #16142

TITLE: Copper Wire in the SO8 Packages for MOSFET Products

PROPOSED FIRST SHIP DATE: 20-Nov-2008

AFFECTED CHANGE CATEGORY(S):

AFFECTED PRODUCT DIVISION(S):

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact your local ON Semiconductor Sales Office or Tom Huettl <Tom.Huettl@onsemi.com >

SAMPLES:
Contact your local ON Semiconductor Sales Office or Rick Ried <rick.ried@onsemi.com >

ADDITIONAL RELIABILITY DATA: Available
Contact your local ON Semiconductor Sales Office or Donna Scheuch <d.scheuch@onsemi.com >

NOTIFICATION TYPE:

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 days prior to implementation of the change.

ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact your local ON Semiconductor Sales Office.

DESCRIPTION AND PURPOSE:

In connection to ON Semiconductor's Initial Product Change Notification, number 16091:

ON Semiconductor is notifying customers of its use of Copper Wire (in place of Gold Wire) on their MOSFET Products in the SO8 Package. Products assembled with High Cell Density MOSFET Die will be affected.

The mold compound, die attach, and lead frame materials used for the SO8 Package will not be changed. Reliability Qualification and full electrical characterization over temperature have been performed showing no difference between the product builds.

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RELIABILITY DATA SUMMARY:

<u>SO8 Dual Device: NTMD6N03R2G</u>

Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=150'C, Vds= 80% BVdss Rating, Duration : 1008-Hrs, 3-Lots
Results: 0/240

Test: High Temperature Gate Bias (HTGB)
Conditions: Ta=150'C, Vds= 100% Vgs Rating, Duration : 1008-Hrs, 3-Lots
Results: 0/240

Test: Intermittent Operating Life (IOL-PC)
Conditions: Ta=25'C, delta Tj=100'C, 2-min on/off, 7.5K- cy, 2-Lots
Results: 0/160

Test: Temperature Cycling (TC-PC)
Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 1000-cy, 3-Lots
Results: 0/240

Test: Autoclave Test (AC-PC)
Conditions: Ta=121'C, P=15psi, RH=100%, Duration: 96-Hrs, 3-Lots
Results: 0/240

Test: Highly Accelerated Stress Test (HAST)
Conditions: Ta=130'C, RH=85%, Duration: 168-Hrs, 3-Lots
Results: 0/240

<u>SO8 Single Device: NTMS10P02R2G</u>

Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=150'C, Vds= 80% BVdss Rating, Duration : 1008-Hrs, 5-Lots
Results: 0/400

Test: High Temperature Gate Bias (HTGB)
Conditions: Ta=150'C, Vds= 100% Vgs Rating, Duration : 1008-Hrs, 5-Lots
Results: 0/400

Test: Intermittent Operating Life (IOL-PC)
Conditions: Ta=25'C, delta Tj=100'C, 2-min on/off, 7.5K- cy, 3-Lots
Results: 0/240

Test: Temperature Cycling (TC-PC)
Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 1000-cy, 5-Lots
Results: 0/400

Test: Autoclave Test (AC-PC)
Conditions: Ta=121'C, P=15psi, RH=100%, Duration: 96-Hrs, 5-Lots
Results: 0/400

Test: Highly Accelerated Stress Test (HAST)
Conditions: Ta=130'C, RH=85%, Duration: 168-Hrs, 5-Lots
Results: 0/400

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ELECTRICAL CHARACTERISTIC SUMMARY:

There is no change in electrical parametric performance. Characterization data is available upon request.

CHANGED PART IDENTIFICATION:

SO8 Products assembled with the Copper Wire from the ON Semiconductor facility in Carmona, Philippines will have a Finish Good Date Code representing Work Week 47, 2008 or newer.

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AFFECTED DEVICE LIST

NTMS10P02R2
NTMS10P02R2G
NTMS3P03R2
NTMS3P03R2G
NTMS4503NR2
NTMS4503NR2G
NTMS4N01R2
NTMS4N01R2G
NTMS5P02R2
NTMS5P02R2G
NTMS5P02R2SG
NTMS7N03R2
NTMS7N03R2G
NTMD2C02R2
NTMD2C02R2G
NTMD2C02R2SG
NTMD2P01R2
NTMD2P01R2G
NTMD3P03R2
NTMD3P03R2G
NTMD4N03R2
NTMD4N03R2G
NTMD6N02R2
NTMD6N02R2G
NTMD6N03R2
NTMD6N03R2G
NTMD6N04R2G
NTMD6P02R2
NTMD6P02R2G
NTMD6P02R2SG